

INTERFEROMETER FOR OPTICAL COHERENCE DOMAIN  
REFLECTOMETRY AND OPTICAL COHERENCE TOMOGRAPHY  
USING NONRECIPROCAL OPTICAL ELEMENTS

ABSTRACT

An interferometer system includes an optical radiation source, an optical circulator connected between the optical radiation source and a sample location for transmitting optical radiation from the optical radiation source to the sample location, an output of the optical circulator connected to direct optical radiation to an optical detector. Various embodiments of such a system are possible. A method of performing OCDR or OCT imaging of a sample which involves the steps of: (a) producing low coherence optical radiation; (b) directing at least some of the low coherence optical radiation through an optical circulator to the sample; (c) reflecting at least some of the low coherence optical radiation off of the sample; and (d) detecting at least some of the reflected low coherence optical radiation and producing an electrical signal corresponding thereto.